

REMARKS

The Applicant respectfully requests further examination and reconsideration in view of the amendments made above and the comments set forth below. Claims 1-12 are pending in the application and claims 13-32 are withdrawn from consideration. Within the Office Action, the
5 Claims 1-10 and 33-36 stand rejected under 35 U.S.C. 102(b) as being anticipated by Fujikawa et al (JP 10335408). Claims 1-10 and 33-36 stand rejected under 35 U.S.C. 102(b) as being anticipated by Tseronis et al (US 6508259). Claims 33-36 stand rejected under 35 U.S.C. 102(b) as being anticipated by Miyagi et al (US 5,433,784). Claims 33-36 stand rejected under 35 U.S.C. 102(b) as being anticipated by LeBlanc III et al (US 5,709,785). Claims 1-10 stand rejected under 35 U.S.C.
10 103(a) as being unpatentable over Toru Yasuda (JP 2000-106358) in view of Miyagi et al (US 5,433,784). Claims 11 and 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Toru Yasuda (JP 2000-106358) in view of Miyagi et al (US 5,433,784) and 1-10 further in view of Masayasu Suzuki (JP 04103768) and Tanabe et al (US 5304422). Claims 37-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagi et al (US 5,433,784) and 1-10 further in view of
15 Masayasu Suzuki (JP 04103768) and Tanabe et al (US 5304422). Claims 37-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over LeBlanc III et al (US 5709785) in view of Masayasu Suzuki (JP 04103768) and Tanabe et al (US 5304422).

Claims 1, 33, and 37 are amended. Claims 41-43 are new. Accordingly, claims 1-12 and 33-43 are
20 pending.

Rejections under 35 U.S.C. § 102

Claims 1-10 and 33-36

25 Within the Office Action, Claims 1-10 and 33-36 stand rejected under 35 U.S.C. 102(b) as being anticipated by JP 10335408 to Fujikawa et al (hereinafter "Fujikawa"). The structure disclosed by Fujikawa differs from the structure taught in the applicant's invention. The deforming means (Drawing 1; 7B) disclosed by Fujikawa operates to lift the substrate off the support means (Drawing 1, 7A) so as to enable the handling robot's (Drawing 2; 8) fingers (Drawing 2; 8B) to move
30 between the substrate (Drawing 1; A) and the support surface (Drawing 1; 7A). The deforming means taught by the applicant's invention is to enable at least the first chamber or second chamber housing to deform in a manner to accommodate any misalignment between the first and second chamber housing during sealing. The deforming means of Fujikawa (Drawing 2; 7) does not effect

the alignment of the chambers housings (Drawing 2; 2 and 3). Therefore, since Fujikawa does not disclose that same structure as the applicant's invention, Claims 1-10 and 33-36 are not anticipated by Fujikawa.

5 Within the Office Action, Claims 1-10 and 33-36 stand rejected under 35 U.S.C. 102(b) as being anticipated by US 6,508,259 to Tseronis et al (hereinafter "Tseronis"). The structure disclosed by Tseronis differs from the structure taught in the applicants invention. The deforming means (Fig. 4; 5A) disclosed by Tseronis functions as an environmental isolation bellow to prevent any
10 contaminates that are generated by the lifting mechanism (Fig. 4; 6A) from entering the wafer processing environment. The deforming means taught by the applicant's invention is to allow at least the first chamber or second chamber housing to deform in a manner to accommodate any misalignment between the first and second chamber housing during sealing. The deforming means of Tseronis (Fig. 4; 5A) does not enable the alignment of the chambers housings (Fig. 4; 2A and 3A). The deformation means in Tseronis flexes to accommodate the movement of the lower chamber
15 housing. Therefore, since Tseronis does not disclose that same structure as the applicant's invention, Claims 1-10 are not anticipated by Tseronis.

Claims 33-36

20 Within the Office Action, Claims 33-36 stand rejected under 35 U.S.C. 102(b) as being anticipated by US 5,433,784 to Miyagi et al (hereinafter "Miyagi"). The structure disclosed by Miyagi differs from the structure taught by the applicants invention. The deforming means (Fig. 1; 17) disclosed by Miyagi deforms along the same axis as the chamber closing force (Fig. 13 and 14). The applicant's invention claims a deforming means wherein the deformation occurs in the axis substantially orthogonal to the chamber closing force. While the examiner notes that a deformation
25 means can deform in all directions, the applicants invention differs structurally in a significant way. First, by locating the deformation means such that the deformation means deforms in a direction substantially orthogonal to the chamber closing force, the deformation means does not have to deform to absorb the chamber sealing force. The deformation required by the deforming means is limited by the force required to handle the misalignment between the first and second chambers.
30 Given that the deformation means does not have to absorb the large chamber sealing forces required in supercritical processing, the deformation means can accommodate a larger variety of materials and structures allowing for the optimal selection of resistance for the deformation means.

 For the structure disclosed in Miyagi, the deformation means deforms in the axis of the chamber sealing force. The deformation means will have to deform to absorb both the chamber

closing force and the misalignment of the upper and lower chambers. This may work adequately for systems not under high pressure but is not optimal when the sealing pressures become large as is required for supercritical systems. Therefore, since Miyagi does not teach, suggest or disclose that same structure as the applicant's invention. The difference between Miyagi and the applicant's invention are a matter of structure and not a matter of shape. Thus, Claims 33-36 are not anticipated by Miyagi.

Within the Office Action, Claims 33-36 stand rejected under 35 U.S.C. 102(b) as being anticipated by US 5,709,7854 to LeBlanc III et al (hereinafter "LeBlanc"). The structure disclosed by LeBlanc differs from the structure taught in the applicants invention. The deforming means (Fig. 2A; 37a, 37b, 38a, 38b) disclosed by LeBlanc deforms substantially along the same axis as the closing means (Fig. 2A; 22b). The applicant's invention claims a deforming means where the deformation occurs in the axis substantially orthogonal to the chamber closing force. For the same reasons as argued above for Miyagi, the applicants invention differs structurally from LeBlanc. Therefore, since LeBlanc does not disclose that same structure as the applicant's invention, Claims 33-36 are not anticipated by LeBlanc.

Rejections under 35 U.S.C. § 103

Claims 1-10

Within the Office Action, Claims 1-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2000-106358 to Toru Yasuda (hereinafter "Yasuda") in view of US Patent No. 5,433,784 to Miyagi et al (hereinafter "Miyagi"). Applicant contends that Yasuda does not teach motive suggest the use of a deformable means to prevent the misalignment between the upper and lower chamber causing the generation of contaminating particles during sealing of the first and second chambers. Further, Miyagi does not teach motivate or suggest the use of a supercritical processing chamber or placing the deformation means substantially orthogonal to the chamber closing force. Since the applicant's invention differs substantially from either Yasuda or Miyagi, that there is no teaching motivation or suggestion to combine the two references. Further, there is no teaching, motivation, or suggestion in Miyagi to place the deformation means substantially orthogonal to the chamber closing force, the applicant's invention is not obvious.

Within the Office Action, Claims 11-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yasuda in view of Miyagi and further in view of JP 04103768 to Masayasu

Suzuki (herein after "Suzuki") and US 5,304,422 to Tanabe et al (herein after "Tanabe"). Claim 11 and 12 depend from amended claim 1 through claims 10, 9, 7, and 6. Since, for the reasons argued above, amended claim 1 is now allowable and non-obvious Claims 11 and 12 are allowable given that they depend from an allowable base claim. Accordingly, this rejection is now moot.

Within the Office Action, Claims 37-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yasuda in view of Miyagi and further in view of Suzuki and Tanabe. For the same reasons argued above, there is no motivation, teaching or suggestion for the combination of Yasuda in view of Miyagi. Further, base claim 37 has been modified to include a substantially orthogonal deformation means. Because Miyaga does not contain a deformation element that is substantially orthogonal to chamber closing motivating force, this structural element is missing from the combination of Yasuda, Miyagi, Suzuki, and Tanabe. For these reasons, claim 37 is non-obvious and allowable over Yasuda, Miyagi, Suzuki, and Tanabe. Claims 38-40 depend from claim 37. Therefore 37-40 are in a condition of allowance.

New Claims

New Claim 41

New claim 41 is similar to original claim 1 with the additional elements of the second chamber housing being configured with a smooth surface to support a semiconductor substrate, a casing element, a motivating structure, a stabilization structure for the first chamber element, and where the deformation mean circumscribing the motivating structure and is comprised of polyether ether keton (PEEKTM).

New Claim 42

New claim 42 is similar to original claim 1 with the additional elements of the second chamber housing being configured with a smooth surface to support a semiconductor substrate, a casing element, a motivating structure, a stabilization structure for the first chamber element, and a first and second deformation means where the first deformation mean circumscribing the motivating structure and the second deformation element is located between the motivating structure and the stabilization structure wherein the deformation means is comprised of polyether ether keton (PEEKTM).

New Claim 43

New claim 43 is similar to original claim 1 with the additional elements of the second chamber housing being configured with a smooth surface to support a semiconductor substrate, a casing element, a motivating structure, a stabilization structure for the first chamber element, and deformation element where the deformation element is located between the motivating structure and the stabilization structure and the deformation structure is comprised of polyether ether keton (PEEK™).

Request for Consideration

The Examiner has acknowledged all the information disclosure statements filed except for the physical IDS (beginning with EP 0 726 099 A2) filed on April 18, 2006. Please take into consideration these IDSs for the above mentioned application.

The Applicants respectfully submits that Claims 1-12 and 33-40 are now in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, he is encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,

Dated: _____

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